

## TENT COOPERATION TRE.

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents  
United States Patent and Trademark  
Office  
Box PCT  
Washington, D.C.20231  
ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

<b>Date of mailing (day/month/year)</b> 11 April 2000 (11.04.00)	
<b>International application No.</b> PCT/IT99/00247	<b>Applicant's or agent's file reference</b> E-5926/99
<b>International filing date (day/month/year)</b> 28 July 1999 (28.07.99)	<b>Priority date (day/month/year)</b> 28 July 1998 (28.07.98)
<b>Applicant</b> ALEARDI, Massimo et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

25 February 2000 (25.02.00)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was  
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

<p>The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No.: (41-22) 740.14.35</p>	<p>Authorized officer Jean-Marc Vivet</p> <p>Telephone No.: (41-22) 338.83.38</p>
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## PCT COOPERATION TREATY

PCT

NOTICE INFORMING THE APPLICANT OF THE  
COMMUNICATION OF THE INTERNATIONAL  
APPLICATION TO THE DESIGNATED OFFICES

(PCT Rule 47.1(c), first sentence)

From the INTERNATIONAL BUREAU

To:

JORIO, Paolo  
Studio Torta S.r.l.  
Via Viotti, 9  
I-10121 Torino  
ITALIE

Date of mailing (day/month/year) 10 February 2000 (10.02.00)		IMPORTANT NOTICE	
Applicant's or agent's file reference E-5926/99			
International application No. PCT/IT99/00247	International filing date (day/month/year) 28 July 1999 (28.07.99)	Priority date (day/month/year) 28 July 1998 (28.07.98)	
Applicant MILLER EUROPE S.P.A. et al			

1. Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this Notice:

AU,CN,EP,IL,JP,KP,KR,US

In accordance with Rule 47.1(c), third sentence, those Offices will accept the present Notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:

AE,AL,AM,AP,AT,AZ,BA,BB,BG,BR,BY,CA,CH,CU,CZ,DE,DK,EA,EE,ES,FI,GB,GD,GE,GH,GM,HR,  
HU,ID,IN,IS,KE,KG,KZ,LC,LK,LR,LS,LT,LU,LV,MD,MG,MK,MN,MW,MX,NO,NZ,OA,PL,PT,RO,RU,  
SD,SE,SG,SI,SK,SL,TJ,TM,TR,TT,UA,UG,UZ,VN,YU,ZA,ZW

The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).

3. Enclosed with this Notice is a copy of the international application as published by the International Bureau on  
10 February 2000 (10.02.00) under No. WO 00/06952

**REMINDER REGARDING CHAPTER II (Article 31(2)(a) and Rule 54.2)**

If the applicant wishes to postpone entry into the national phase until 30 months (or later in some Offices) from the priority date, a demand for international preliminary examination must be filed with the competent International Preliminary Examining Authority before the expiration of 19 months from the priority date.

It is the applicant's sole responsibility to monitor the 19-month time limit.

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

**REMINDER REGARDING ENTRY INTO THE NATIONAL PHASE (Article 22 or 39(1))**

If the applicant wishes to proceed with the international application in the national phase, he must, within 20 months or 30 months, or later in some Offices, perform the acts referred to therein before each designated or elected Office.

For further important information on the time limits and acts to be performed for entering the national phase, see the Annex to Form PCT/IB/301 (Notification of Receipt of Record Copy) and Volume II of the PCT Applicant's Guide.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer  J. Zahra
Facsimile No. (41-22) 740.14.35	Telephone No. (41-22) 338.83.38

# PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

# PCT

## NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL PRELIMINARY EXAMINATION REPORT (PCT Rule 71.1)

To:

JORIO, P.  
STUDIO TORTA S.r.l.  
Via Viotti, 9  
10121 TORINO  
ITALIE

Date of mailing  
(day/month/year) 16.06.2000

Applicant's or agent's file reference  
E-5926/99

### IMPORTANT NOTIFICATION

International application No.  
PCT/IT99/00247

International filing date (day/month/year)  
28/07/1999

Priority date (day/month/year)  
28/07/1998

Applicant  
MILLER EUROPE S.P.A. et al.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

#### 4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/

 European Patent Office  
D-80298 Munich  
Tel. +49 89 2399 - 0 Tx: 523656 epmu d  
Fax: +49 89 2399 - 4465

Authorized officer

Stephan, K

Tel. +49 89 2399-2947





# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference <b>E-5926/99</b>	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. <b>PCT/IT99/00247</b>	International filing date (day/month/year) <b>28/07/1999</b>	Priority date (day/month/year) <b>28/07/1998</b>
International Patent Classification (IPC) or national classification and IPC <b>F23Q3/00</b>		
Applicant <b>MILLER EUROPE S.P.A. et al.</b>		
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 4 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>		
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li>I <input checked="" type="checkbox"/> Basis of the report</li> <li>II <input type="checkbox"/> Priority</li> <li>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li>IV <input type="checkbox"/> Lack of unity of invention</li> <li>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li>VI <input type="checkbox"/> Certain documents cited</li> <li>VII <input checked="" type="checkbox"/> Certain defects in the international application</li> <li>VIII <input type="checkbox"/> Certain observations on the international application</li> </ul>		
Date of submission of the demand  <b>25/02/2000</b>	Date of completion of this report  <b>16.06.2000</b>	
Name and mailing address of the international preliminary examining authority:   <b>European Patent Office</b> <b>D-80298 Munich</b> <b>Tel. +49 89 2399 - 0 Tx: 523656 epmu d</b> <b>Fax: +49 89 2399 - 4465</b>	Authorized officer  <b>Gonzalez Davila, J-C</b>  Telephone No. <b>+49 89 2399 2767</b> 	

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/IT99/00247

**I. Basis of the report**

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.*):

**Description, pages:**

1-8 as originally filed

**Claims, No.:**

1-5 as originally filed

**Drawings, sheets:**

1/1 as originally filed

2. The amendments have resulted in the cancellation of:

- ☐ the description, pages:  
☐ the claims, Nos.:  
☐ the drawings, sheets:

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

4. Additional observations, if necessary:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/IT99/00247

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**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes: Claims 1-5
	No: Claims
Inventive step (IS)	Yes: Claims 1-5
	No: Claims
Industrial applicability (IA)	Yes: Claims 1-5
	No: Claims

**2. Citations and explanations**

**see separate sheet**

**VII. Certain defects in the international application**

The following defects in the form or contents of the international application have been noted:

**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/IT99/00247

**Item V**

**Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. None of the prior art documents contained in the search report describes an electronic gas-lighting device combination of a casing made of insulating material, electronic high-voltage-pulse generating means and assembly means for removably fitting said casing to a supporting surface of a conducting metal body element of an electric household appliance, wherein the casing is fitted directly with respective supply contacts located on a specially shaped portion of the casing to form a supply terminal board, which is connected exclusively and solely to said electronic high-voltage-pulse generating means.
2. These features are neither known from, nor rendered obvious in respect of prior art so that claim 1 therefore meets the requirements of Articles 33(2) and 33(3) PCT.
3. Claims 2-5 contain advantageous modifications of the inventive idea embodied in claim 1 and also meet the requirements of Articles 33(2) and 33(3) PCT.

**Re Item VII**

**Certain defects in the international application**

1. The features of the claims are not provided with reference signs placed in parentheses (Rule 6.2(b) PCT).
2. Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the document PATENT ABSTRACTS OF JAPAN vol. 1997, no. 07 (1997-07-31) & JP 09 060878 A (TOKAI CORP) (1997-03-04) has not been mentioned in the description, nor has been this document identified therein.
3. A document reflecting the prior art described on pages 1 and 2, is not identified in the description (Rule 5.1(a)(ii) PCT).

The demand must be filed directly with the competent International Preliminary Examining Authority. If two or more Authorities are competent, with the one chosen by the applicant. The name or two-letter code of that Authority may be indicated by the applicant on the line below:

IPEA/EP

# PCT

## CHAPTER II

### DEMAND

under Article 31 of the Patent Cooperation Treaty:  
The undersigned requests that the international application specified below be the subject of international preliminary examination according to the Patent Cooperation Treaty.

For International Preliminary Examining Authority use only

Identification of IPEA	Date of receipt of DEMAND
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<b>Box No. I IDENTIFICATION OF THE INTERNATIONAL APPLICATION</b>		Applicant's or agent's file reference E-5926/99
International application No. PCT/IT99/00247	International filing date (day/month/year) (28 July 1999) 28.07.99	(Earliest) Priority date (day/month/year) (28 July 1998) 28.07.98

Title of invention

ELECTRONIC GAS-LIGHTING DEVICE INTEGRATED WITH A TERMINAL BOARD

#### Box No. II APPLICANT(S)

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

MILLER EUROPE S.p.A.

Via Privata Iseo 6 E  
20098 S. GIULIANO MILANESE, Italy

Telephone No.:

+39.0332.415033

Facsimile No.:

+39.0332.418161

Teleprinter No.:

====

State (i.e. country) of nationality: IT

State (i.e. country) of residence: IT

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

ALEARDI Massimo

Via A. Costa, 36  
21012 CASSANO MAGNAGO, Italy

State (i.e. country) of nationality: IT

State (i.e. country) of residence: IT

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

BIANCHI Raoul

Via Monte Grappa, 51  
22079 VILLA GUARDIA, Italy

State (i.e. country) of nationality: IT

State (i.e. country) of residence: IT



Further applicants are indicated on a continuation sheet.



**Box No. III AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE**The following person is ☒ agent ☐ common representativeand ☒ has been appointed earlier and represents the applicant(s) also for international preliminary examination.☐ is hereby appointed and any earlier appointment of (an) agent(s)/common representative is hereby revoked.☐ is hereby appointed, specifically for the procedure before the International Preliminary Examining Authority, in addition to the agent(s)/common representative appointed earlier.Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)*JORIO Paolo - PRATO Roberto - BOGGIO Luigi -  
PLEBANI Rinaldo - CERBARO Elena - FRANZOLIN Luigi -  
LO CIGNO Giovannic/o STUDIO TORTA S.r.l.  
Via Viotti, 9  
10121 TORINO, Italy

Telephone No.:

+39.011.5611320

Facsimile No.:

+39.011.5622102

Teleprinter No.:

221612

☐ Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.**Box No. IV STATEMENT CONCERNING AMENDMENTS**

The applicant wishes the International Preliminary Examining Authority\*

(i) ☒ to start the international preliminary examination on the basis of the international application as originally filed.(ii) ☐ to take into account the amendments under Article 34 of☐ the description (amendments attached).☐ the claims (amendments attached).☐ the drawings (amendments attached).(iii) ☐ to take into account any amendments of the claims under Article 19 filed with the International Bureau (a copy is attached).(iv) ☐ to disregard any amendments of the claims made under Article 19 and to consider them as reversed.(v) ☐ to postpone the start of the international preliminary examination until the expiration of 20 months from the priority date unless that Authority receives a copy of any amendments made under Article 19 or a notice from the applicant that he does not wish to make such amendments (Rule 69.1(d)). *(This check-box may be marked only where the time limit under Article 19 has not yet expired.)*

\* Where no check-box is marked, international preliminary examination will start on the basis of the international application as originally filed or, where a copy of amendments to the claims under Article 19 and/or amendments of the international application under Article 34 are received by the International Preliminary Examining Authority before it has begun to draw up a written opinion or the international preliminary examination report, as so amended.

**Box No. V ELECTION OF STATES**☒ The applicant hereby elects all eligible States *(that is, all States which have been designated and which are bound by Chapter II of the PCT)* except .....*(If the applicant does not wish to elect certain eligible States, the name(s) or country code(s) of those States must be indicated above.)*

**Box No. VI CHECK LIST**

The demand is accompanied by the following documents for the purposes of international preliminary examination:

- |  |   |        |
|--|---|--------|
| 1. amendments under Article 34                     |   |        |
| description  | : | sheets |
| claims   | : | sheets |
| drawings   | : | sheets |
| 2. letter accompanying amendments under Article 34 | : | sheets |
| 3. copy of amendments under Article 19             | : | sheets |
| 4. copy of statement under Article 19              | : | sheets |
| 5. other ( <i>specify</i> ):                       | : | sheets |

For International Preliminary  
Examining Authority use only

received

not received

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The demand is also accompanied by the item(s) marked below:

- |  |  |
|--|--|
| 1. <input type="checkbox"/> separate signed power of attorney      | 4. <input checked="" type="checkbox"/> fee calculation sheet |
| 2. <input type="checkbox"/> copy of general power of attorney      | 5. <input type="checkbox"/> other ( <i>specify</i> ):        |
| 3. <input type="checkbox"/> statement explaining lack of signature |  |

**Box No. VII SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE**

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the demand).

(Dr. Ing. Paolo JORIO)

For International Preliminary Examining Authority use only

1. Date of actual receipt of DEMAND:

2. Adjusted date of receipt of demand due to CORRECTIONS under Rule 60.1(b):

3. ☐ The date of receipt of the demand is AFTER the expiration of 19 months from the priority date and item 4 or 5, below, does not apply.

☐ The applicant has been informed accordingly.

4. ☐ The date of receipt of the demand is WITHIN the period of 19 months from the priority date as extended by virtue of Rule 80.5.

5. ☐ Although the date of receipt of the demand is after the expiration of 19 months from the priority date, the delay in arrival is EXCUSED pursuant to Rule 82.

For International Bureau use only

Demand received from IPEA on:

PCT

REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

For receiving Office use only

International Application No.

International Filing Date

Name of receiving Office and "PCT International Application"

Applicant's or agent's file reference  
(if desired) (12 characters maximum) E-5926/99

Box No. I TITLE OF INVENTION

ELECTRONIC GAS-LIGHTING DEVICE INTEGRATED WITH A TERMINAL BOARD.

Box No. II APPLICANT

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

MILLER EUROPE S.p.A.

Via Privata Iseo, 6 E  
20098 S. GIULIANO MILANESE, Italy

☐ This person is also inventor.

Telephone No.

+39.0332.415033

Facsimile No.

+39.0332.418161

Teleprinter No.

===

State (that is, country) of nationality: IT

State (that is, country) of residence: IT

This person is applicant for the purposes of:

☐ all designated States

☒ all designated States except the United States of America

☐ the United States of America only

☐ the States indicated in the Supplemental Box

Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

ALEARDI Massimo

Via A. Costa, 36  
21012 CASSANO MAGNAGO, Italy

This person is:

☐ applicant only

☒ applicant and inventor

☐ inventor only (If this check-box is marked, do not fill in below.)

State (that is, country) of nationality: IT

State (that is, country) of residence: IT

This person is applicant for the purposes of:

☐ all designated States

☐ all designated States except the United States of America

☒ the United States of America only

☐ the States indicated in the Supplemental Box

☒ Further applicants and/or (further) inventors are indicated on a continuation sheet.

Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE

The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as:

☒ agent

☐ common representative

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

JORIO Paolo - BOGGIO Luigi - PRATO Roberto - PLEBANI Rinaldo - CERBARO Elena - FRANZOLIN Luigi - LO CIGNO Giovanni

c/o STUDIO TORTA S.r.l.  
Via Viotti, 9  
10121 TORINO, Italy

Telephone No.

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Facsimile No.

+39.011.5622102

Teleprinter No.

221612

☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

## Continuation of Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)

*If none of the following sub-boxes is used, this sheet should not be included in the request.*

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

BIANCHI Raoul

Via Monte Grappa, 51  
22079 VILLA GUARDIA, Italy

This person is:

☐ applicant only

☒ applicant and inventor

☐ inventor only (If this check-box is marked, do not fill in below.)

State (that is, country) of nationality: IT

State (that is, country) of residence: IT

This person is applicant for the purposes of:

☐ all designated States

☐ all designated States except the United States of America

☒ the United States of America only

☐ the States indicated in the Supplemental Box

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

This person is:

☐ applicant only

☐ applicant and inventor

☐ inventor only (If this check-box is marked, do not fill in below.)

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant for the purposes of:

☐ all designated States

☐ all designated States except the United States of America

☐ the United States of America only

☐ the States indicated in the Supplemental Box

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

This person is:

☐ applicant only

☐ applicant and inventor

☐ inventor only (If this check-box is marked, do not fill in below.)

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant for the purposes of:

☐ all designated States

☐ all designated States except the United States of America

☐ the United States of America only

☐ the States indicated in the Supplemental Box

Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

This person is:

☐ applicant only

☐ applicant and inventor

☐ inventor only (If this check-box is marked, do not fill in below.)

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant for the purposes of:

☐ all designated States

☐ all designated States except the United States of America

☐ the United States of America only

☐ the States indicated in the Supplemental Box

☐ Further applicants and/or (further) inventors are indicated on another continuation sheet.

**Box No.V DESIGNATION OF STATES**

The following designations are hereby made under Rule 4.9(a) (mark the applicable check-boxes; at least one must be marked):

**Regional Patent**

- ☒ **AP ARIPO Patent:** GH Ghana, GM Gambia, KE Kenya, LS Lesotho, MW Malawi, SD Sudan, SZ Swaziland, UG Uganda, ZW Zimbabwe, and any other State which is a Contracting State of the Harare Protocol and of the PCT
- ☒ **EA Eurasian Patent:** AM Armenia, AZ Azerbaijan, BY Belarus, KG Kyrgyzstan, KZ Kazakhstan, MD Republic of Moldova, RU Russian Federation, TJ Tajikistan, TM Turkmenistan, and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT
- ☒ **EP European Patent:** AT Austria, BE Belgium, CH and LI Switzerland and Liechtenstein, CY Cyprus, DE Germany, DK Denmark, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, SE Sweden, and any other State which is a Contracting State of the European Patent Convention and of the PCT
- ☒ **OA OAPI Patent:** BF Burkina Faso, BJ Benin, CF Central African Republic, CG Congo, CI Côte d'Ivoire, CM Cameroon, GA Gabon, GN Guinea, GW Guinea-Bissau, ML Mali, MR Mauritania, NE Niger, SN Senegal, TD Chad, TG Togo, and any other State which is a member State of OAPI and a Contracting State of the PCT (if other kind of protection or treatment desired, specify on dotted line) .....

**National Patent (if other kind of protection or treatment desired, specify on dotted line):**

- |  |  |
|--|--|
| <input checked="" type="checkbox"/> AL Albania .....                               | <input checked="" type="checkbox"/> LS Lesotho .....                                   |
| <input checked="" type="checkbox"/> AM Armenia .....                               | <input checked="" type="checkbox"/> LT Lithuania .....                                 |
| <input checked="" type="checkbox"/> AT Austria .....                               | <input checked="" type="checkbox"/> LU Luxembourg .....                                |
| <input checked="" type="checkbox"/> AU Australia .....                             | <input checked="" type="checkbox"/> LV Latvia .....                                    |
| <input checked="" type="checkbox"/> AZ Azerbaijan .....                            | <input checked="" type="checkbox"/> MD Republic of Moldova .....                       |
| <input checked="" type="checkbox"/> BA Bosnia and Herzegovina .....                | <input checked="" type="checkbox"/> MG Madagascar .....                                |
| <input checked="" type="checkbox"/> BB Barbados .....                              | <input checked="" type="checkbox"/> MK The former Yugoslav Republic of Macedonia ..... |
| <input checked="" type="checkbox"/> BG Bulgaria .....                              | <input checked="" type="checkbox"/> MN Mongolia .....                                  |
| <input checked="" type="checkbox"/> BR Brazil .....                                | <input checked="" type="checkbox"/> MW Malawi .....                                    |
| <input checked="" type="checkbox"/> BY Belarus .....                               | <input checked="" type="checkbox"/> MX Mexico .....                                    |
| <input checked="" type="checkbox"/> CA Canada .....                                | <input checked="" type="checkbox"/> NO Norway .....                                    |
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		national application: country	regional application: * regional Office	international application: receiving Office
item (1) (28 July 1998) 28.07.98	T098A 000653	IT		
item (2)				
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This international application contains the following number of sheets:

request : 4  
description (excluding sequence listing part) : 8  
claims : 3  
abstract : 1  
drawings : 1  
sequence listing part of description : \_\_\_\_\_

Total number of sheets : 17

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Figure of the drawings which should accompany the abstract: 2

Language of filing of the international application:

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## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>E-5926/99</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/IT 99/ 00247</b>	International filing date (day/month/year) <b>28/07/1999</b>	(Earliest) Priority Date (day/month/year) <b>28/07/1998</b>
Applicant <b>MILLER EUROPE S.P.A. et al.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 2 sheets.

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### 1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

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2  
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## INTERNATIONAL SEARCH REPORT

International Application No.

PCT/IT 99/00247

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 F23Q3/00

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 F23Q H01R H05K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PATENT ABSTRACTS OF JAPAN vol. 1997, no. 07, 31 July 1997 (1997-07-31) & JP 09 060878 A (TOKAI CORP), 4 March 1997 (1997-03-04) abstract	1
A	EP 0 819 890 A (SIT LA PRECISA SPA) 21 January 1998 (1998-01-21) the whole document	1
A	DE 295 00 327 U (VAILLANT JOH GMBH & CO) 16 February 1995 (1995-02-16) the whole document	1
A	DE 43 00 309 A (STAIGER STEUERUNGSTECH) 14 July 1994 (1994-07-14) the whole document	1



Further documents are listed in the continuation of box C.



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Date of the actual completion of the international search

6 December 1999

Date of mailing of the international search report

10/12/1999

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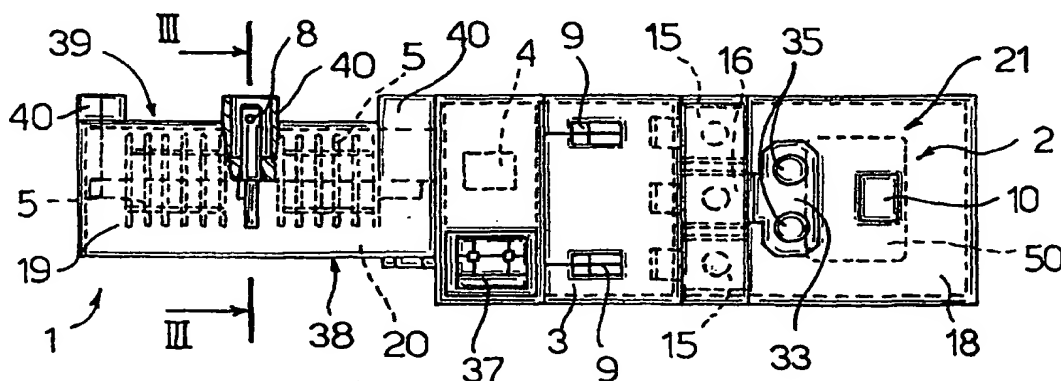
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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 09060878 A	04-03-1997	NONE	
EP 0819890 A	21-01-1998	IT PD960183 A DE 819890 T	16-01-1998 16-07-1998
DE 29500327 U	16-02-1995	AT 400612 B AT 10694 A	26-02-1996 15-06-1995
DE 4300309 A	14-07-1994	NONE	

## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification <sup>7</sup> : <b>F23Q 3/00</b>		A1	(11) International Publication Number: <b>WO 00/06952</b>
			(43) International Publication Date: 10 February 2000 (10.02.00)
(21) International Application Number: PCT/IT99/00247 (22) International Filing Date: 28 July 1999 (28.07.99) (30) Priority Data: TO98A000653 28 July 1998 (28.07.98) IT (71) Applicant (for all designated States except US): MILLER EUROPE S.P.A. [IT/IT]; Via Privata Iseo, 6 E, I-20098 S. Giuliano Milanese (IT). (72) Inventors; and (75) Inventors/Applicants (for US only): ALEARDI, Massimo [IT/IT]; Via A. Costa, 36, I-21012 Cassano Magnago (IT). BIANCHI, Raoul [IT/IT]; Via Monte Grappa, 51, I-22079 Villa Guardia (IT). (74) Agents: JORIO, Paolo et al.; Studio Torta S.r.l., Via Viotti, 9, I-10121 Torino (IT).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).  Published With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.	

(54) Title: ELECTRONIC GAS-LIGHTING DEVICE INTEGRATED WITH A TERMINAL BOARD



## (57) Abstract

An electronic gas-lighting device having a casing made of insulating material; electronic high-voltage-pulse generating means including at least one transformer having a secondary winding, the ends of which are connected to respective high-voltage terminals; and assembly means for removably fitting the insulating casing to a supporting surface of a conducting metal body element of an electric household appliance, in particular a cooking range with gas burners; the casing including a cup-shaped body housing the at least one transformer, and a box portion which is formed integrally with the cup-shaped body, houses at least part of the electronic high-voltage-pulse generating means, and is fitted directly with respective supply contacts located on the box portion to form a supply terminal board, which is connected exclusively to the electronic high-voltage-pulse generating means, and to which are connectable the wires of a supply cable.

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5

ELECTRONIC GAS-LIGHTING DEVICE INTEGRATED WITH A  
TERMINAL BOARD

10      TECHNICAL FIELD

The present invention relates to an electronic gas-lighting device integrated with a supply terminal board and so connectable directly to the wires of a supply cable.

15      BACKGROUND ART

Increasing demand for integrated components is also felt in the electric household appliance industry to simplify and speed up component assembly to the appliance, and in particular to the appliance body. In  
20 the case of gas cookers, and also built-in cooking ranges, components typically fitted to the appliance body, or to the cooking range, are the electronic gas-lighting device and the supply terminal board. The terminal board is designed to receive and retain the  
25 cable powering the various electric devices (e.g. lights, burner lighter, etc.) and, above all, to ground the appliance body and/or cooking range, which are

conducting metal elements. The electronic gas-lighting device, on the other hand, is the main device to be powered, and provides for lighting the burners by means of respective high-voltage terminals, which are  
5 connected by conducting wires to electrodes fitted to the range, close to the burners which, being grounded via the range, act as counterelectrodes.

The above integration problems are known to be solved using a standard terminal board having a  
10 supporting body shaped to house a standard lighting device complete with a respective independent casing, so that the lighting device is preassembled to the terminal board, which is then fitted to the appliance in one operation. Though the time taken to fit the components  
15 to the appliance is reduced, the above solution has the drawback of increasing the time taken to assemble the components and the cost of the components themselves. Moreover, in most applications, using a standard terminal board designed for high currents (e.g. 12 amps)  
20 is a pointless waste.

#### DISCLOSURE OF INVENTION

It is an object of the present invention to provide an integrated device designed to eliminate the  
aforementioned drawbacks, and which, in particular, is  
25 cheap and easy to produce, can be assembled quickly and easily, and may be used indifferently for cooking ranges or for more complex electric household appliances such

as gas cookers.

According to the present invention, there is provided an electronic gas-lighting device integrated with a terminal board, the device comprising a casing  
5 made of insulating material; electronic high-voltage-pulse generating means including at least one transformer having a secondary winding, the ends of which are connected to respective high-voltage terminals; and assembly means for removably fitting said  
10 casing to a supporting surface of a conducting metal body element of an electric household appliance, in particular a cooking range with gas burners; characterized in that said casing is fitted directly with respective supply contacts located on a specially  
15 shaped portion of the casing to form a supply terminal board, which is connected exclusively and solely to said electronic high-voltage-pulse generating means, and to which are connectable the wires of a supply cable.

More specifically, the casing is made of molded  
20 synthetic plastic material, and comprises a cup-shaped body, a cavity of which houses said at least one transformer; and a box portion, which is formed integrally with the cup-shaped body, houses at least part of said electronic high-voltage-pulse generating  
25 means, and is fitted directly with said respective supply contacts which are arranged on the box portion to form, together with the box portion, said terminal

board.

The terminal board may therefore be designed solely bearing in mind the maximum current relating to the gas-lighter (less than 1 amp), thus enabling a reduction in the size of the terminal board. Moreover, all the terminal board and gas-lighter components are carried by the same casing and wired directly to one another inside the casing, which provides for component saving, reducing size and weight, simplifying assembly, and possibly also electrically connecting the terminal board contacts directly to a component, e.g. a printed circuit, of the gas-lighter.

In a preferred embodiment, the terminal board contacts, which are Faston types, are clicked onto an inner first face of the box portion, and one of them, which acts as a ground contact, has a tongue projecting outwards of the box portion and parallel to and facing a second face of the box portion opposite the first, so that the appliance body (or cooking range) can be grounded by simply fitting the tongue to it. Being parallel to the axial extension of the box portion, the tongue in no way prevents the device from being inserted into or removed from the appliance, regardless of whether this is done from the inside or outside of the appliance body.

Finally, on the second face side, the box portion of the casing comprises an integral connector for

connecting the high-voltage-pulse generating means to respective control means of the appliance; and the cup-shaped body carries said high-voltage terminals housed inside through ducts formed integrally with a bottom wall of the cup-shaped body perpendicular to the first and second face of the box portion, thus preventing, in use, any possible crossover of the catenary control cables and the high-voltage cables to the burners.

#### BRIEF DESCRIPTION OF DRAWINGS

10 A non-limiting embodiment of the present invention will be described by way of example with reference to the accompanying drawings, in which:

- Figure 1 shows a longitudinal elevation of the integrated device according to the invention;

15 - Figure 2 shows a partially sectioned longitudinal view of the Figure 1 device rotated 90°;

Figure 3 shows a section along line III-III of the Figure 2 device.

#### BEST MODE FOR CARRYING OUT THE INVENTION

20 Number 1 in Figures 1 to 3 indicates as a whole an electronic gas-lighting device, which, according to the invention, is integrated with a terminal board 2 for supplying the device. More specifically, device 1 is designed for use on a known electric household appliance  
25 (not shown) such as a gas cooker or cooking range with gas burners or a gas oven lit electrically.

Device 1 comprises a casing 3 made of insulating



material; electronic high-voltage-pulse generating means 4 (known and therefore not described in detail for the sake of simplicity) in turn comprising one or more transformers 5, each having a secondary winding 6 (Figure 1), the ends of which are connected to respective known high-voltage terminals 8 (Figure 2); and assembly means, defined by teeth 9 and 10, for fitting insulating casing 3 removably to a supporting surface 11 of a conducting metal body element 12 of an electric household appliance, in particular defined by a cooking range with known gas burners (not shown for the sake of simplicity).

According to the invention, casing 3 is fitted directly with supply contacts 15, 16 located on a specially shaped portion 18 of the casing, so that contacts 15, 16 and portion 18 form a supply terminal board 2 fully and closely integrated with the gas-lighting device, and which, as will be seen, is connected exclusively and solely to electronic high-voltage-pulse generating means 4, and is designed to receive the wires of a known supply cable (not shown for the sake of simplicity).

More specifically, the casing is made of molded synthetic plastic material, and comprises a cup-shaped body 19, a cavity 20 of which houses transformer/s 5 (in the example shown, two transformers 5); and portion 18, which is substantially in the form of a parallelepiped-

shaped box and is formed integrally with cup-shaped body 19. Box portion 18 has a bottom wall defining two opposite faces: an outer face 21 facing, in use, surface 11 of body 12; and an inner face 22. On the face 22 side, box portion 18 houses at least part of said electronic high-voltage-pulse generating means 4 (shown schematically by a dash line), including at least part of a known printed circuit 25 (or connecting board supporting an electric track circuit), and is fitted directly on face 22 with said supply contacts 15 and 16.

Contacts 15, 16 are defined by Faston blade contacts clicked in known manner, not shown, onto face 22 and each having a respective known screw terminal for receiving both terminated and nonterminated wires.

Teeth 9 are substantially rigid and L-shaped, while tooth 10 is elastically deformable, so that all click in known manner onto opposite edges of the same opening, or, as in the example shown, onto respective through openings 30, 31 in metal body element 12 of the appliance. Teeth 9, 10 are formed integrally with casing 3 and project perpendicularly from face 21.

Contact 16, between two contacts 15, is a ground contact and, according to one aspect of the invention, comprises an integral T-shaped tongue 33 which projects outwards of box portion 18, is bent into an L to extend longitudinally parallel to and facing face 21, on the same side as teeth 9, 10, and is separated from face 21

by such a distance as to contact surface 11 when teeth 9, 10 engage openings 30, 31. Tongue 33 also comprises two (or at least one) known fastening holes 35 for fitment to metal body element 12 of the appliance. The  
5 above design and location of tongue 33 between teeth 9 and 10 enable use of the tongue to ground body element 12 with no increase in the normal overall transverse size of casing 3, thus enabling device 1 to be fitted to the appliance from both the inside and outside.

10 According to a further aspect of the invention, box portion 18 comprises, on the face 21 side, an integral connector 37 (e.g. a JST type) for connecting electronic high-voltage-pulse generating means 4 to respective known control means (not shown) of the appliance.

15 In conjunction with the above characteristic, cup-shaped body 19 comprises an access opening 38 to cavity 20, and a bottom wall 39 opposite and facing opening 38, both of which lie in planes perpendicular to the plane of faces 21 and 22 of box portion 18, i.e. are oriented  
20 perpendicular to faces 21 and 22. Bottom wall 39 comprises a number of through ducts 40, each housing a terminal 8, so that terminals 8 and contact 16 face opposite ways, thus preventing crossover of the respective connected wires.

25 Finally, portion 18 may comprise a known cable clamping device 50, shown only schematically, to complete terminal board 2.

## CLAIMS

1) An electronic gas-lighting device integrated with a terminal board, the device comprising a casing made of insulating material; electronic high-voltage-pulse generating means including at least one transformer having a secondary winding, the ends of which are connected to respective high-voltage terminals; and assembly means for removably fitting said casing to a supporting surface of a conducting metal body element of an electric household appliance, in particular a cooking range with gas burners; characterized in that said casing is fitted directly with respective supply contacts located on a specially shaped portion of the casing to form a supply terminal board, which is connected exclusively and solely to said electronic high-voltage-pulse generating means, and to which are connectable the wires of a supply cable.

2) An integrated device as claimed in Claim 1, characterized in that said casing is made of molded synthetic plastic material, and comprises a cup-shaped body, a cavity of which houses said at least one transformer; and a box portion, which is formed integrally with the cup-shaped body, houses at least part of said electronic high-voltage-pulse generating means, and is fitted directly with said respective supply contacts which are arranged on the box portion to

form, together with the box portion, said terminal board; said respective supply contacts being defined by Faston blade contacts clicked onto an inner first face of said box portion of the casing, and each having a  
5 respective screw terminal.

3) An integrated device as claimed in Claim 2, characterized in that said assembly means comprise two teeth, at least one of which is elastically deformable, and which click onto at least one opening in said  
10 conducting metal body element of the appliance; said teeth being formed integrally with said casing, and projecting perpendicularly from an outer second face, opposite the first face, of said box portion of the casing; one of said respective supply contacts being a  
15 ground contact, and comprising an integral tongue projecting outwards of the box portion of the casing, on the same side as said teeth; said tongue being located parallel to and facing said second face, and at such a distance from the second face as to contact said  
20 conducting metal body element of the appliance when said teeth engage said at least one opening; said tongue having at least one respective fastening hole for fitment to said conducting metal body element of the appliance.

25 4) An integrated device as claimed in Claim 3, characterized in that, on said second face side, said box portion of the casing comprises an integral

connector for connecting the high-voltage-pulse generating means to respective control means of the appliance.

5) An integrated device as claimed in Claim 4,  
5 characterized in that said cup-shaped body comprises an access opening to said cavity; and a bottom wall opposite and facing said access opening and comprising a number of through ducts, each housing one of said high-voltage terminals; said bottom wall and said access  
10 opening lying in planes perpendicular to the plane of said first and second face of the box portion.

1 / 1

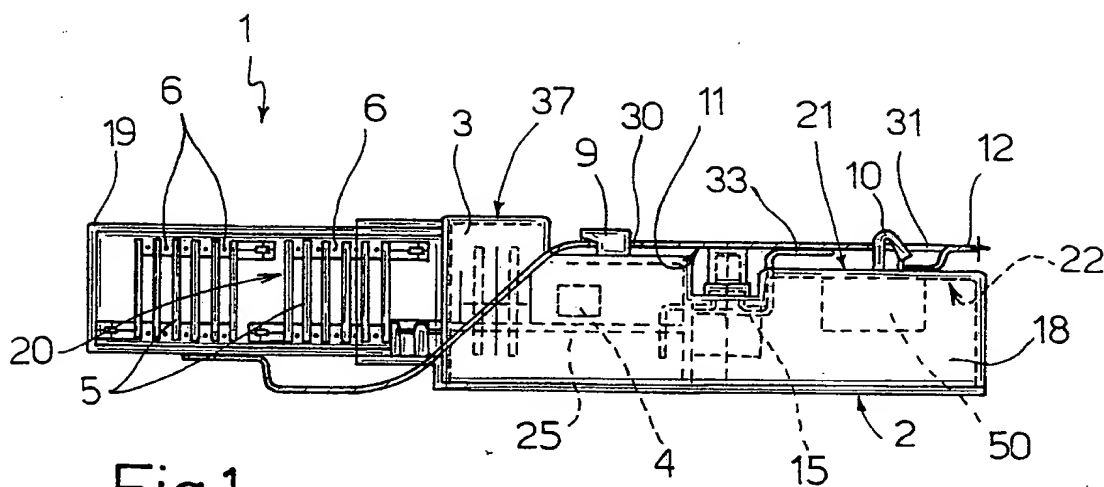


Fig.1

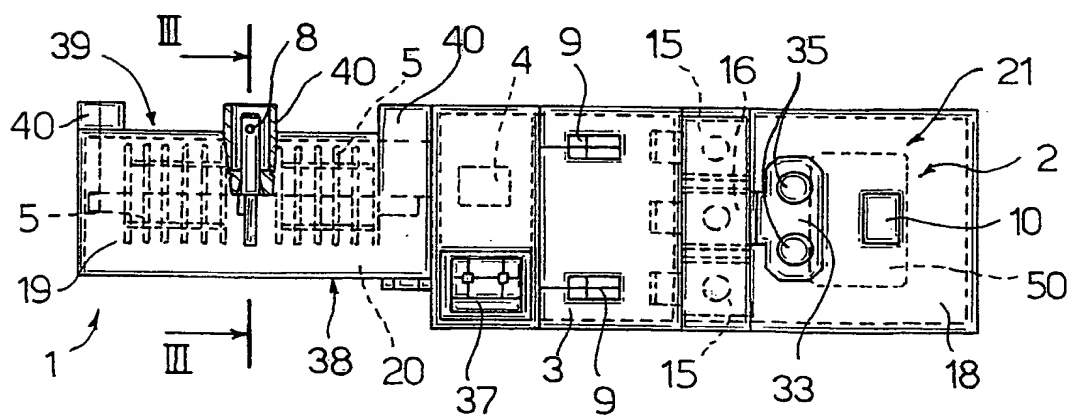


Fig.2

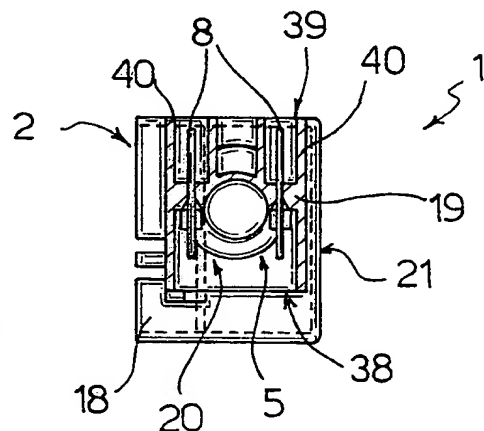


Fig.3

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/IT 99/00247

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 F23Q3/00

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 F23Q H01R H05K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	PATENT ABSTRACTS OF JAPAN vol. 1997, no. 07, 31 July 1997 (1997-07-31) & JP 09 060878 A (TOKAI CORP), 4 March 1997 (1997-03-04) abstract	1
A	EP 0 819 890 A (SIT LA PRECISA SPA) 21 January 1998 (1998-01-21) the whole document	1
A	DE 295 00 327 U (VAILLANT JOH GMBH & CO) 16 February 1995 (1995-02-16) the whole document	1
A	DE 43 00 309 A (STAIGER STEUERUNGSTECH) 14 July 1994 (1994-07-14) the whole document	1



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

\* Special categories of cited documents :

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"&" document member of the same patent family

Date of the actual completion of the international search

6 December 1999

Date of mailing of the international search report

10/12/1999

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IT 99/00247

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EP 0819890	A	21-01-1998	IT PD960183 A DE 819890 T	16-01-1998 16-07-1998
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